

Assessing the Impact of Microcredit: A Zambian Case Study

JAMES COPESTAKE, SONIA BHALOTRA
and SUSAN JOHNSON

Expectations are high, but evidence of the impact of microcredit remains in short supply. This article estimates the impact of an urban credit programme in Zambia on business performance and on a range of indicators of wellbeing. Borrowers who obtained a second loan experienced significantly higher average growth in business profits and household income. Inflexible group enforcement of loan obligations resulted in some borrowers, especially amongst those who had taken only one loan, being made worse off. Our methodological investigations suggest that the supply of rigorous impact studies can be increased by basing them on data collection that serves a wider range of purposes, including market research.

INTRODUCTION

The global 'microcredit' movement that has emerged in the last decade contrasts with earlier credit programmes in being more demand-driven, charging higher interest rates, controlling costs, and emphasising savings mobilisation as a prerequisite for sustainable credit provision [Otero and Rhyne, 1994; Morduch, 1999].¹ Its rapid growth can be explained in part by its strong affinity to the wider 'Washington consensus' on development policy [Copestake, 1996a]. For example, many potential providers had been held back by government controls on interest rates. Microcredit is also consistent with a shift in thinking towards promotion of self-help and against welfare dependency. At the same time 'pump-priming' microcredit programmes provided an ideologically acceptable growth area for donor

James Copestake, Dept of Economics and International Development, University of Bath, UK; Sonia Bhalotra Dept of Economics, University of Cambridge and University of Bristol, UK; Susan Johnson, Department of Economics and International Development, University of Bath, UK. The authors are grateful to Mike Godwin, David Musona, Ezra Anyango, Mike Mbulo, Richard Boulter and other participants in the research on which this article is based; thanks also to Richard Meyer, Monique Cohen, Klaus Kuiper, Loic Sadoulet and two anonymous referees for comments on earlier drafts. The views expressed are those of the authors alone.

agencies at a time when many of their traditional activities were being challenged [Adams and Von-Pischke, 1992].

Bold aspirations about the potential of microcredit raise the question of its actual impact. Although growing, the number of rigorous studies that are readily accessible in the public domain remains small.² This partially reflects uncertainty among the staff of development agencies about whether it is possible to overcome methodological problems of selection bias, limited recall and response bias within acceptable cost and time limits [Harper and Finnegan, 1998; Morduch, 1999: 1598].³ It is useful to distinguish three views on this issue. The first accepts the case for doing a limited number of rigorous studies but argues that it is a specialised and expensive task.⁴ The second trusts more in the ability of practitioners to interpret and be guided by a mixture of routine monitoring and qualitative studies, more akin to market research than to academic research [Hyman and Dearden, 1998; Cheston and Reed, 1999]. A third view seeks an intermediate or 'middle range' level of assessment: cheap enough to be carried out quite widely, but sufficiently rigorous to be credible. This position has received support from international development agencies, such as the World Bank and USAID, who have commissioned a series of pilot intermediate studies [Cohen, 1999; Sebstad, 1998; Edgcomb and Garber, 1998; McKelly and Lippold, 1998].

The case study presented here was both more costly and aspired to a higher level of methodological rigour than these studies suggest.⁵ Thus, in addition to adding to the published evidence on the impact of microfinance, it is relevant to the wider debate over the relationship between rigour, timeliness, cost, accessibility and sufficiency of middle-range studies.

The layout of the article is as follows. The next two sections set out the context of the case study and summarise its findings. The third section draws implications for the wider debate over the costs and benefits of different approaches to microfinance impact assessment, and the final section concludes.

1. THE CASE STUDY

Design of the Credit Programme

The Peri-Urban Lusaka Small Enterprise Project (PULSE) is a group-based microcredit programme specialised in providing loans to poor self-employed people living in low-income neighbourhoods or *compounds* of Lusaka, Zambia. The target groups are women and young men who own a business that is at least six months old and that is the main source of family income.⁶ To obtain loans, eligible applicants were first required to form themselves into groups of 25 to 35, referred to as *gulus*. They then had to

attend weekly training sessions for eight weeks, for which they paid a fee. Loan amounts were linked to the capital requirements of each person's business, as well as their ability to make an initial payment of ten per cent of the agreed loan amount into the PULSE Loan Insurance Fund (LIF). These deposits earned interest, but also served as partial collateral for all loans made to the *gulu*, being recoverable only if the loans were fully repaid. Members were also required personally to guarantee each other's loans, and PULSE encouraged them to cover this liability by pledging moveable assets to the *gulu*. First loans ranged in value from Kw. 50,000 to 500,000 (£17 to £170) repayable in 25 equal weekly instalments. Once all loans from a *gulu* were repaid, its members became eligible for second loans, often for larger amounts. Between loan cycles *gulus* were also allowed to reconstitute themselves, by shedding some members and accepting others from different *gulus*.⁷

PULSE was launched by the non-government organisation CARE-Zambia in 1994. In July 1995, it secured a grant of £2.78 million over five years from the UK Department For International Development (DFID) to capitalise its expansion and provide for technical assistance. The funding contract envisaged that by the end of the grant period PULSE should be (a) financially self-sufficient, and (b) have at least 10,000 active clients selected from among the cities 'economically active poor'. By June 1998 it had mobilised LIF savings of nearly Kw.3 billion (£100,000). It had advanced loans to 4,235 people and had 2,640 active participants, 63 per cent of them women. On-time repayment was 79 per cent and overall repayment (including recoveries paid out of LIF contributions) was close to 100 per cent.

The Economic Environment

When PULSE began operations, prospects for urban microcredit in Zambia seemed to be reasonably good. The 'Movement for Multiparty Democracy' that assumed power in 1991 had established a more liberal economic policy framework and expressed greater tolerance of private sector activities. Interest rates had been decontrolled, and in 1995 and 1996 these rates comfortably exceeded inflation for the first time in many years. After a generation of economic decline, there were tentative signs of a resumption of long-term economic growth, linked to an accelerating privatisation programme and foreign investment. On the other hand, industrial restructuring and retrenchment of formal sector employees were widely perceived to be inflicting a double blow on the compounds: reducing demand for local goods and services, while at the same time adding to the pool of competing business operators.⁸ In this context, access to capital was widely cited as a major influence on business survival or growth. Few

operators could access formal finance, and informal 'money-go-rounds' (*chilimbas*) and private moneylending (*kaloba*) were less common than in other African countries [O'Reilly, 1996].⁹

Impact Assessment: Methods and Data

The impact assessment study drew upon three sources of data: a questionnaire-based sample survey of PULSE participants, secondary survey data drawn from the wider population of businesses and households, and a cascading set of qualitative focus group discussions and key informant interviews. The study had three objectives. The first was to identify characteristics of loan recipients such as gender, relative poverty, and age of business, and to estimate the programme's depth of outreach. This drew upon all three sources of data. The second was to identify and estimate direct impacts of loans on borrowers, their businesses and their households. This drew mainly upon the sample survey, but also upon the qualitative enquiry. The third objective was to identify indirect effects of the programme. This drew mainly upon the qualitative enquiry. Findings are summarised under these three headings in the next section.

To analyse depth of outreach, the study compared findings from a sample survey of participants with data from three secondary sources. These were an official survey of the incidence of poverty against a consumption-based poverty line [Government of Zambia, 1997], a participatory urban appraisal study [CARE-Zambia, 1997], and a national survey of small and micro-enterprises [Parker, 1996]. Where possible, the questionnaire used for the sample survey matched questions used in these studies. It covered characteristics of respondents, their household and business activities during a standard reference month (March 1998). Respondents were also asked to estimate what their answer would have been for the same month a year earlier. The questionnaire also included open-ended and opinion questions, while information on the loans received was obtained directly from PULSE records.

The sample comprised 420 participants selected randomly from three groups. *Cohort 1* comprised borrowers who obtained their first loan between one and two years before the reference month; *Cohort 2* obtained their first loan between one year and eight months before, and *Cohort 3* had yet to receive a loan by the end of the reference month. This last group (also referred to below as *pipeline borrowers*) served as a control group, since it comprised people who had already been screened by PULSE as eligible for loans using the same criteria as the borrowing groups (see Gaile and Foster [1996]).¹⁰

An additional 196 people were interviewed as part of the qualitative enquiry. Focus groups were arranged by randomly selecting a 'strong',

'medium' and 'weak' *gulu* from lists of each compiled through a participatory *gulu* 'health' ranking exercise with staff at each branch [Copestake, 1996b]. Criteria for assessing the health of a *gulu* were chosen by PULSE staff themselves, and included frequency and effectiveness of meetings, repayment performance and unity of purpose. Key informant interviews were then arranged with those who had left the programme, non-participants, neighbourhood leaders, PULSE staff and other providers of financial services identified during focus group discussions.

II. CASE STUDY FINDINGS

Depth of Outreach

While much of the rhetoric of microfinance is concerned with helping the poorest of the poor, PULSE set itself the more realistic goal of lending to the 'economically active' poor. Identifying the poverty status of borrowers nevertheless remains an important step in assessing its impact. Official poverty data for 1996 found 69 and 53 per cent of Zambia's inhabitants living in poverty and extreme poverty respectively.¹¹ Although the rates for Lusaka were lower (31 and 14 per cent) they nevertheless implied the city had a poor population of around 350,000 inhabitants.¹² The corresponding rates for PULSE participants covered by the main survey in 1998 were 31 and 19 per cent. This suggests that PULSE discriminated neither strongly for nor against the poorest households in the city. Poverty incidence was slightly higher among pipeline participants than among those who had already obtained loans, but the difference can be attributed to the positive average impact of loans on household income, reported below.

CARE-Zambia [1997] reported on people's own perceptions of poverty in the low-income compounds of the city that PULSE operated in. Group discussions led to classification of households into three categories, principally on the basis of diet and housing. These consistently placed 10 per cent into the top category, while allocations to the bottom two categories varied widely. No attempt was made to classify PULSE borrowers into the same categories because the weights given to different proxy indicators of poverty in the original study were unknown. However, specific indicators suggest that a majority of them would probably have fallen into the top category. For example, 90 per cent of PULSE participants reported purchasing maize meal in 25 kilo sacks. In contrast, the participatory study partially defined the two poorest categories by the need to purchase it in smaller packs or to buy unmilled maize instead. To give another example, only 44 per cent of PULSE participants rented their house, compared to 73 per cent in the bottom two categories and 36 per cent in the top category.

The survey of microenterprises in Zambia [Parker, 1996] included a sample of 567 business operators in low-density housing areas of Lusaka. A gap of two years separated it from the sample survey, but three differences nevertheless stood out. First, given that PULSE required businesses to have been operational for at least six months, it was unsurprising that only three per cent of PULSE businesses were less than one year old, as compared with 21 per cent of the wider population. Second, a higher proportion of PULSE participants (93 per cent) had progressed beyond Grade 5 in school, compared to a corresponding figure for the wider population of business operators of 81 per cent (and 70 per cent among women).¹⁴ Third, a higher proportion of PULSE participants (69 per cent compared to 61 per cent) were engaged in trade or commerce, with fewer in services (seven per cent compared to 15 per cent) and an equivalent proportion (24 per cent) in manufacturing.

A prime determinant of PULSE's depth of outreach was the location of its branches in compounds mainly inhabited by households just above or below the official poverty line, avoiding both affluent low-density areas and the poorest squatter settlements. A second factor was debt capacity. PULSE staff generally took the view that only market traders with more than Kw.100,000 of stock would be able to service a loan. Likewise they avoided widows without access to capital from a partner.

Qualitative enquiry suggested that very poor business operators were themselves also deterred from borrowing by high loan costs and by the fear that PULSE would seize collateral if they failed to keep up with the repayments. Others could not raise enough money to make initial LIF payments, or withdrew from the initial training on learning that they would have to guarantee the loans of other *gulu* members, or that the *gulu* might require them to pledge personal assets as collateral. At the other end of the scale, the time and complications associated with *gulu* membership also acted as a disincentive to richer business operators in the compounds, who were interested only in much larger loans that they could obtain directly as individuals.

Overall, these findings are consistent with other studies [e.g., Hulme and Mosley, 1996], in suggesting that recipients of microcredit tend to be bunched around the poverty line, but with more above than below it.

Direct Impact on Business Performance

The micro-credit scheme in Lusaka directed credit at existing businesses with less than five employees. Any impact upon the general wellbeing of recipients may be expected to operate via business profits. So we first investigate the credit-profit relation and then investigate whether credit recipients had higher household income or reported a better quality of life.

The monthly profit for March 1998 of businesses that had already received loans (Cohorts 1 and 2) were on average ten per cent higher than those of businesses still in the pipeline to receive their first loan (Cohort 3). This purely *cross-sectional* comparison is of limited relevance given heterogeneity between the groups. A simple *before and after* comparison for the previous year shows an increase in profits of 88 per cent for Cohort 1 and of 29 per cent for Cohort 2, with no increase in profits for Cohort 3. These are what the treatment effects literature would refer to as the mean effect of treatment on the treated. Since profit growth for pipeline participants happens to be zero, they also denote the mean effect of treatment. Column 1 of Table 1 reports a regression of the *growth rate of average profits* on an indicator for whether the participant has received a loan (dummy for 'pipeline' in column 1), holding constant a range of other relevant factors. This suggests that the *difference of differences* in profits is significantly smaller for pipeliners who have similar characteristics to loan receivers but have not had a loan. For the average loan recipient in the sample, with business profit for March 1998 of Kw.486,000 (£163), profits are estimated to be 19.7 per cent higher than they would have been without the loan. Column 2 refines the specification by distinguishing the amounts of the first and second loans. It is of considerable interest that the second loan has a significantly positive impact on profits whereas the first loan has no impact. It is estimated that monthly profits increased by 4.5 per cent for every Kw.100,000 (£33) received as a second loan.

Other than credit, we found significant effects of training and marital status on business profits (columns 1 and 2). Profit growth was 26 per cent higher for business operators who had a *spouse or a stable partner*. *Business training*, provided by PULSE and other agencies, was also important. If this variable reflects unobservable personal characteristics, such as willingness to learn, or if it is correlated with the date of joining PULSE, then it may be expected to reduce the effect of selection bias on the loan impact coefficients.¹⁴

The quantitative data were complemented with qualitative questions that asked respondents to explain reasons for changes in the profitability of their main business over the past year. While few referred to PULSE explicitly, a higher proportion of the borrowers (compared to non-borrowers) whose profits increased attributed this to increased investment, turnover and diversification. Likewise a higher proportion of non-borrowers compared to borrowers cited lack of capital as a reason for falling profits. In focus group discussions, participants linked credit to the ability to carry more stock, and diversify into costlier activities such as trading in *kapenta* (dried fish), *salaula* (used clothes) and imported goods from South Africa.

TABLE 1
IMPACT OF MICROCREDIT

Dependent variable	(1) Growth rate of profits	(2) Growth rate of profits	(3) Business diversification	(4) Household income growth
Pipeline?	-0.18 (1.53)			
Size of first loan		2.48 (0.44)	-0.44 (0.79)	-0.35 (0.16)
Size of second loan		4.36 (1.91)	1.33 (2.04)	1.51 (1.71)
Age of business (years)	0.0023 (0.22)			
Own business?	0.55 (1.13)	0.51 (1.08)		
Got help?	-0.15 (1.27)	-0.13 (1.11)	-0.27 (0.78)	
Experience?	-0.020 (0.14)	-0.052 (0.38)	-0.057 (1.43)	
Training?	0.22 (1.64)	0.20 (1.44)	-0.066 (1.72)	
Sex of recipient	-0.086 (0.73)	-0.12 (1.04)	-0.002 (0.06)	-0.0011 (0.26)
Married/partner?	0.24 (1.70)	0.23 (1.67)	0.093 (2.51)	-0.44 (0.88)
Secondary Education?	-0.095 (0.05)	-0.12 (0.67)	0.061 (1.13)	-0.019 (0.25)
Higher Education?	0.28 (0.97)	0.12 (0.42)	-0.064 (0.77)	0.16 (1.39)
Electricity	0.0024 (0.72)			
#Observations	281	283	415	353
*F-statistic	1.77	2.21	1.83	1.21
R-square	0.0676	0.1104	0.0603	0.376
Adjusted R-square	0.0295	0.0604	0.0274	0.0065

Notes: The equations include compound (area) dummies (not shown). Figures in parentheses are absolute t-statistics. *Growth of profits* is the difference in the logarithm of profits, where differences refer to the difference of the March 1997 and the March 1998 observation. *Diversification* is the difference in the log of the number of businesses in different industrial codes. *Household income growth* is the log of the difference in monthly contributions to the household budget by all family members. Question marks indicate dummy variables, with value of 1 if the answer is yes, and 0 if the answer is no. *Pipeline?* Was a PULSE loan received before 1 March 1998? *Size of first and second loans:* Loans received from pulse in thousands of kwacha. *Own business?* Are you the sole owner of your business premises? *Help?* Did you receive help from a relative or close friend as preparation for running your business? *Experience?* Have you worked as an employee or apprentice for someone else as preparation for running your business? *Training?* Have you received formal training as preparation for running your own business? *Sex=* 1 if male, 0 if female. *Married/partner?* 1 if married or cohabiting, 0 if single, divorced or widowed. *Secondary education?* Have you received education up to a grade between 7 and 12? *Higher education?* Have you been educated beyond Grade 12? *Electricity.* Percentage share of properties in the compound with electricity.

This was supported by a regression (column 3 of Table 1) that established a significant positive link between receipt of *second loans* and an indicator of *diversification*, that is, the difference in the logarithm of the number of businesses in different industrial codes over the period 1997–98. Branch staff corroborated this finding, but also emphasised the link between profit growth and borrowers' business management skills.

Direct Impact on Household Income and Well-being

On average, main respondents reported transferring an amount equivalent to roughly one third of average business profits into the household budget. These monthly income transfers were significantly higher for borrowers than for pipeline participants. They also grew faster over the previous year, by 37 and 28 per cent in nominal terms for Cohorts 1 and 2 respectively, compared to 19 per cent for pipeline participants.¹⁵ Regression analysis revealed that a positive link between PULSE participation and *household income growth* was again associated particularly with receipt of a second loan, the coefficient on amount of first loan being insignificant (Table 1, column 4).¹⁶ Thus a striking feature of our findings is that the positive effect of microcredit on the growth of borrowers' business profits or household income arose strictly from the second loan, first loans having no significant impact. The first-to-second loan client exit rate for PULSE during this period was 52 per cent.

When asked whether their overall quality of life had changed over the year, 52 per cent of borrowers and 57 per cent of pipeline participants said they felt better off. Likewise, 38 and 21 per cent respectively said they felt worse off, the differences being statistically significant. On the assumption that responses of the pipeline group are a counterfactual for the borrower group, this suggests that some borrowers were actually worse off as a result of taking loans.¹⁷

Tabular comparisons across cohorts revealed, rather unexpectedly, that borrower households generally spent significantly less in the previous year on *house improvement*, and were more likely to shift from their own to rented *accommodation*. Multiple regression indicated that borrowers in Cohort 2 also experienced a sharper fall in the number of *consumer durables* that they owned (see Copestake *et al.* [1998]). These findings are consistent with a portfolio reallocation of capital from housing into business activities, either to complement loan funds or to finance loan repayment and LIF contributions. However, no clear story to explain the phenomenon emerged from the qualitative enquiries, and it may also reflect some deliberate concealment of household assets among borrowers, resulting from their use as loan collateral.

Qualitative enquiry elicited a wide range of explanations for fluctuating incomes. These were most often linked to business profitability as

determined by variation in demand, competition and prices. Incomes were also vulnerable to loss of employment, crime, ill health (including HIV/AIDS related), death, funeral expenses and increased dependency ratios. PULSE loans, with their fixed terms, made only a small contribution to consumption smoothing and could even exacerbate vulnerability. For example, thieves in one compound were reported to have targeted borrowers they believed had recently purchased new stock with their loan money.

Indirect Impacts

Indirect impacts include the effect of PULSE lending on factor markets, product markets and social behaviour. These are briefly reviewed in this section. With respect to the wider *credit market*, the sample survey furnished comprehensive information about other financial services. For example, 21 per cent of respondents had a bank or post office savings account, 14 per cent participated in *chilimba*, and 10 per cent obtained some credit from business suppliers. However, no significant differences were detected in these relations between borrowers and non-borrowers. Qualitative enquiry indicated that in a capital scarce environment the financial services offered by PULSE did not generally substitute for existing services and were having no discernible effect on informal interest rates. However, several informants expressed the view that PULSE's uncompromising policy on loan recovery was rekindling a fear of formal credit, in marked contrast to subsidised government programmes of the past. With respect to the *labour market*, regression analysis was used to investigate a direct link between receipt of PULSE loans and growth in paid employment in the respondent's businesses. There was no direct loan effect, although employment growth was found to be positively correlated with growth in business profits and growth in household wealth (variables that, as discussed above, were influenced by access to loans).

PULSE affected product markets via displacement, multiplier and consumer price effects. Qualitative enquiries suggested that increased competition from PULSE clients was indirectly undermining the coping strategies of some of the poorest residents in the compounds. In food retailing, for example, they lost business to PULSE clients who were able to purchase larger, more varied and higher quality stocks. But PULSE participants were also competing with medium and large retailers located outside the compounds. Reduced 'net exports' and the initial injection of loan capital helped to sustain the circular flow of income within the compounds, offsetting the displacement effects. Increased price competition is also likely to have benefited the often very poor consumers of goods and services provided by PULSE participants. Thus while the net indirect

economic impacts could not be quantified, it cannot be assumed that they were negative.

Investigating the social effects of PULSE, both within and across households, proved to be difficult, even in focus groups where all present belonged to the same *gulu* and sex. This may be explained not only by reticence in the presence of researchers, but also by the lack of intimacy and trust among *gulu* members themselves. The compounds seemed to be characterised by suspicion, lack of business contacts and weak community organisation.¹⁸ For example, the majority of participants came to their first PULSE meeting alone rather than as part of an existing church group, *chilimba* or business circle. They generally had little prior knowledge of other members of their *gulu*, and often had not even met many of them before. While participation in the scheme is expected to encourage trust and co-operation between group members, this takes time to develop.

Our findings indicate that the group approach did not capitalise particularly on existing knowledge among members of their mutual creditworthiness, though it perhaps enabled them subsequently to gain such knowledge more cheaply and rapidly than would have been possible for a loan officer dealing directly with individuals. Rather, the main role of groups was to ensure repayment by making it possible for future credit, personal assets and LIF payments to be offered as group collateral. Many of those who had been forced to cover for the debts of other members in order to secure future access to loans themselves were resentful of this arrangement, and urged PULSE to switch to providing loans direct to individuals. On the positive side, some participants said that they had learnt from the business experience of other *gulu* members, and obtained useful advice from them when they ran into difficulties. A few instances were also cited of *gulu* members helping each other out financially during illness or to meet the cost of funerals.

Given the lack of prior knowledge and trust among members, the group lending approach did not lower overall screening, monitoring and enforcement costs as much as expected. Instead, its main effect was to shift more of these costs from PULSE to its clients. This may reflect in part a failure to screen out all applicants who were not creditworthy. But it can also be linked to rigid group enforcement of fixed loan repayments without regard to income fluctuations arising from ill health, theft, job loss and fluctuating demand. These findings raised questions over how borrower induction processes and first loan terms could be improved, as well as over the relative merits of PULSE loans and alternative financial services (such as micro-savings and funeral insurance) likely to be better suited to poorer and less creditworthy borrowers.¹⁹

III. IMPACT ASSESSMENT METHODOLOGY

The case study illustrates the advantages of utilising more than one approach to impact assessment. Positivist analysis was instrumental in identifying and quantifying the most important impacts (for example, on business profit growth but not on employment growth, and arising from receipt of the second but not first loans) while holding constant observed heterogeneity in the sample. But interpretive analysis (drawing on qualitative and quantitative data collection methods) was necessary to explain these findings, to expose variation around average effects, and to locate findings in a wider context.²⁰

With respect to the positivist analysis, the case study also illustrates the importance of combining 'with/without' and 'before/after' comparisons. Potential selection bias was addressed by creating a control group of individuals whose loan applications had been approved but who were yet to receive loans. The selection problem was also addressed by virtue of our conditioning on variables correlated with the unobservable determinants of programme selection.²¹

Our investigation raises questions about the scope of middle range studies. The data collection methods used were largely extractive, with the result that neither borrowers nor loan officers learnt much from the exercise. In addition, the research was restricted to a relatively narrow cohort of borrowers and hence to a short slice of the micro-finance agency's lending history. These weaknesses are a common feature of middle-range impact studies, arising from pressure for them to fit in with the funding cycles and accountability requirements of donors [*Cheston and Reed, 1999*]. Delegation of the work to specialist research agencies also weakens the incentives to integrate impact assessment with the micro-finance organisation's own internal monitoring, market research and strategic planning processes.

Table 2 develops this argument by contrasting impact assessment with market research. Micro-finance organisations are becoming more aware of the importance of market research as competition increases, highlighting the need for innovation based on systematic product development rather than uncritical replication of models developed in other contexts. Market research also represents a distinct approach to learning about the effect of services on clients. Managers are often able to judge the plausibility of findings for themselves without these having to be analysed and written up rigorously, whereas impact assessment has to be credible for a more remote audience. Yet both activities are concerned with understanding how different services affect different types of customers, and both utilise similar data collection methods. The third column of Table 2 suggests that there

TABLE 2
IMPACT ASSESSMENT AND MARKET RESEARCH COMPARED.

	IMPACT ASSESSMENT STUDIES	MARKET RESEARCH	INTEGRATED IMPACT MONITORING AND ASSESSMENT?
WHO FOR?	Programme sponsors.	Senior management.	Users, staff, senior management, board and sponsors.
WHY?	Public accountability – 'proof' of impact. Strategic external funding decisions.	Strategic management decisions – or 'improvement' of impact (new or altered financial products, area expansion, monitoring operational procedures and staff performance).	Strategic management and funding decisions. Improved responsiveness of staff and programme to client needs. Client self-reflection.
WHEN?	Timing determined by donor programming cycles. There may be a baseline survey, but these are often poorly utilised by later studies.	Ad hoc activities in response to specific needs.	Continuous data collection and reporting, plus specific studies to address specific requirements.
WHAT?	Depth of outreach and direct impacts on clients.	Profiles of potential, new, and exiting clients. Client satisfaction. Indicators of portfolio quality. Comparisons with services provided by competitors.	All of the information indicated under the other two columns.
WHO BY?	Specialist short-term contractors, usually appointed by donors, often mid-way through donor programming cycles.	Internal staff and ad hoc local consultants.	Specialist long-term sub-contractor working in close collaboration with operational staff.
HOW? Data collection	Sample surveys, focus groups and participatory appraisal exercises, narrative case studies, semi-structured interviews with key informants.	Routine entry and exit forms, ad hoc surveys, piloting of new products, focus groups, semi-structured and key informant interviews.	Routine entry and exit forms. Repeat interviews with a rolling sample of actual and pipeline clients stratified by intake cohort. Follow-up focus groups, narrative case studies and semi-structured key informant interviews.

TABLE 2 (cont.)

	IMPACT ASSESSMENT STUDIES	MARKET RESEARCH	INTEGRATED IMPACT MONITORING AND ASSESSMENT?
HOW? Analysis	Econometric analysis of variation in performance indicators controlling for other factors. Interpretive reports drawing upon qualitative and quantitative data.	Statistical analysis of determinants of client performance and satisfaction. Interpretive reports drawing upon qualitative and quantitative data.	Routine reports including client profiles, entry and exit data. Statistical and econometric analysis becomes possible as the database grows. Interpretive reports drawing upon qualitative and quantitative data

may consequently be scope for designing impact monitoring and assessment systems that fulfil both needs.²²

Routinely collected interview data could be used to maintain a rolling profile of clients, report on client attitudes to the services they are receiving, and analyse how this differs according to individual, livelihood and household characteristics. It could also be used for comparisons with data from secondary sources to monitor depth of outreach. But once a minimum sample size was obtained the database could also be used for more rigorous impact assessment.

Putting these proposals into practice raises numerous practical issues. First, stakeholders must reach a consensus over whether an integrated system can satisfy their multiple requirements and how it should be funded. This in turn depends upon their expectations of the trade-offs over time between subsidies and impact. Morduch [1999: 1592] has injected a note of realism into this issue by suggesting that provision of long-term subsidies, justified by better evidence of impact, is more likely to be the norm for many organisations (including the Grameen Bank) than a swift transition to financial self-reliance.

Second, there is the question of who carries out impact monitoring and assessment. Assigning data collection to operational staff has been criticised for distracting them from core activities, and may increase response bias.²³ But with better planning it can also improve staff-client understanding, improve service quality, reduce drop-out rates and help to ensure that the wider poverty reduction goals are not lost in the rush to cover costs and to grow [Simanowitz, 1999]. On the other hand, there is a strong case for subcontracting management of the system in order to improve accountability for delivery of planned outputs and to accommodate fluctuations in demand

for skilled analysts [Hyman and Dearden, 1998: 274]. Overall, the balance between staff and specialist inputs will vary between organisations according to their specific mission, the nature of their products (standard or tailored, for example) and staff turnover.

Third, there is the issue of detailed methodology. The main data collection instrument would be routine entry, exit and sample interview forms, but adequate resources should also be allocated to complementary qualitative enquiries, including meetings to check findings against the observations of staff. The sample interview schedule should be suitable for collection of data from both pipeline and established clients, the former acting as a control group as in the case study.²⁴ Clear protocols are needed for routine data entry, checking and analysis so that internal reports on the findings of batches of interviews can be generated quickly and cost-effectively. For more rigorous impact analysis, it is necessary to ensure that a sufficient number of interviews are completed in time to inform strategic decisions.²⁵

IV. CONCLUSIONS

This article has analysed the impact of a microcredit intervention on borrowers living in low-income neighbourhoods of Lusaka. The programme was not directed towards the poorest business operators, but we estimated that one-third of clients were below the national poverty line. Those who graduated from their first to a second loan on average experienced significantly higher growth in their profits and household income, as compared with otherwise similar business operators. These borrowers also diversified their business activities more rapidly. However, we found that some borrowers were made worse off, particularly among the 50 per cent or so who left the programme after receiving only one loan. Qualitative enquiry suggests that this is related to rigid group enforcement of fixed loan repayment schedules without regard to income fluctuations arising from ill-health, theft, job loss and fluctuating demand. Our investigation raises important questions concerning group lending procedures, loan terms, and the balance between sponsorship of microcredit and other poverty alleviation programmes. Finally, we argue that there is scope for improving the cost effectiveness of impact assessment by basing it on routine impact monitoring that can serve a wider range of purposes.

NOTES

1. The Microcredit Summit, held in Washington in 1997, evinces the interest this approach has generated. It brought together 2,900 people representing 1,500 organisations to 'launch a global movement to reach 100 million of the world's poorest families, especially women of those families, with microcredit for self-employment by 2005' [*Microcredit Summit, 1998*]. The summit organisers received reports from 458 organisations that they were providing loans to 14.65 million borrowers, including nearly 8 million from the bottom 50 per cent of those below national poverty lines. The ten largest programmes (six of them in Bangladesh) accounted for 11.7 million of borrowers. The updated figures for June 1999 were 929 affiliated organisations reporting 22.3 million clients, including 12.7 million poor.
2. Gaile and Foster [1996], for example, were able to identify just 11 for a systematic desk review. More studies have been published since, particularly of the large programmes in Bangladesh [Wood and Sharif, 1997; Sinha, 1998; Morduch, 1999]. But with some exceptions [e.g., Neill et al., 1994; Diagne et al., 1996; Hulme and Mosley, 1996] there is a lack of studies from Sub-Saharan Africa.
3. The main methodological challenge confronting impact assessment is to demonstrate that variation in selected indicators can be unambiguously attributed to a specific intervention. A *positivist* approach to this problem estimates the magnitude and statistical significance of correlation between selected indicators of intervention and impact [Moffit, 1991]. This may be contrasted with an *interpretivist* approach that links intervention to impact through convincing narrative argument supported by a broader range of qualitative and quantitative data [Copestake, 1996b]. Both approaches can be rigorous, if this is defined as 'the disciplined use of argument based on ruthless logic, meaningful measurement and explicit assumptions' [Schreiner, 1998: 1]. In both cases, full presentation of available evidence (and methods used to collect and analyse it) should permit peers to refute the propositions advanced; although trust in the expertise of researchers is also important.
4. The most intractable problems are endogeneity of programme placement and client self-selection. These make it impossible to identify a perfect control group of individuals who resemble clients in every respect other than having obtained loans. Econometric solutions to the problems exist, and these are particularly effective when some randomness influenced programme placement and client selection. But analysis is complex and expensive [Coleman, 1999; Morduch, 1999].
5. AIMS and CGAP have been wary to propose budget limits on middle-range studies, but a target ceiling of \$US25,000 has been mentioned informally by various practitioners, though others regard this as unrealistic. Cheston and Reed [1999: 10] argue for a budget at least as large as that used to track and audit financial performance.
6. For a more detailed description of eligibility criteria and other features of the programme see Copestake et al. [1998].
7. First loans incurred a flat rate of 40 per cent and a service charge of ten per cent. As an annual equivalent interest rate on a declining balance this is a rate of 93 per cent, not taking into account the opportunity cost of parallel payments into the LIF.
8. Official figures suggest an increase of 25 per cent in the proportion of household heads employed in the non-agricultural informal sector for Zambia as a whole between 1993 and 1996 [Government of Zambia, 1998]. However since these are based on employment status of household head they are likely to understate the overall situation as other household members are set up in business to supplement salaries which are losing real value.
9. Chilimba members all save an agreed amount over a standard period between meetings, distributing the combined amount to each member in rotation. They tended to involve very small groups – ranging from three to around ten. This could be explained by lack of trust, and the unwillingness of any member to delay very long before receiving a pay-out. Kaloba was generally offered at 50 per cent interest flat for periods of less than a month and 100 per cent for periods of more than a month. Lenders rarely have more than 20 clients. They tend

to operate from markets and places of employment where they are close to and know about their borrowers' income source.

10. The control group was drawn partially from the same four compounds as borrowers, and partially from two new areas of operation. One of the new areas was found to be markedly richer than the other five, and so observations from this area have been excluded wherever direct comparisons between cohorts are drawn (reducing the sample size to 387). The multiple regression equations shown in Table 1, on the other hand, use the full sample and controlled for compound differences by using dummy variables. Results could still be biased by unobservable differences, such as risk aversion, between borrowers and pipeline respondents living in the same compound. However, such differences were partially controlled for through inclusion of proxy variables for such differences, such as receipt of training and subscription to government health services.
11. The survey estimated extreme poverty against a food basket sufficient to provide 2,050 calories and 34 grams of protein per adult equivalent per day. The cost of the food basket was estimated at Kw.921 per adult equivalent per month at 1991 prices (or Kw.25,950 at March 1998 prices). Moderate poverty was estimated by multiplying this figure by 30 per cent to cover the many items (including clothing, housing, education, health, transport) excluded from the food basket. To estimate the poverty status of PULSE participants, an estimate of average daily household income during March 1998 was obtained for each household through interview. This was divided by the number of adult equivalents, using weights of 0.24 and 0.65 for children up to four years old and from five to 14 respectively. The resulting figure was then compared with the above poverty lines.
12. Poverty in Lusaka was underestimated compared to other areas by failure to account for factors like higher crime, housing and commuting costs. On the other hand, use of a single set of food prices for all areas, had the opposite effect as Lusaka prices for the standard food basket were found to be 8.7 per cent below the Zambia average.
13. At the other end of the formal education ladder only four per cent of PULSE participants were educated beyond Grade 12, compared to 11 per cent of the wider population.
14. In addition, those who reported having received informal help from a relative or close friend with their business experienced lower profit growth. This could also reflect unobservable personal characteristics, such as lack of initiative, or it could be linked to past experiences of financial crises.
15. However, the metropolitan low income consumer price index grew by 44 per cent over the same period. So average transfers fell in real terms among borrowers and non-borrowers alike.
16. Transfers from borrowers during March 1998, of on average Kw.150,000 per month (£50), were estimated to be 1.5 per cent higher per Kw.100,000 (£33) received as a second loan. On average, half this increase in income was spent on *food*. The increase in income may be expected to have had a positive impact on child health. A regression of the arm circumference of children under five against their age (in months) and other variables picked up a significant positive relationship with household income [Copestake *et al.*, 1998]. Also significant (but negative) was the frequency with which the respondent smoked tobacco, and dummy variables for two compounds (suggesting public health effects).
17. These responses take into account not only income, but also the cost of extra time many borrowers allocated to their business in order to generate sufficient revenue to cover loan repayments. When asked how their real personal income had changed, 37 per cent of borrowers and 28 per cent of pipeline participants said it had fallen, while the same proportion (58 per cent) said it went up.
18. Moser [1998] made the same observation, and attributed it to the top-down style of local political and civic organisation during the Kaunda era. Increased poverty incidence, resulting *inter alia* from job losses, withdrawal of food subsidies, the HIV/AIDs epidemic and increasing crime help to explain the limited improvement since.
19. CARE also runs a programme in Lusaka with precisely this remit. See Rutherford [1998] for a review of financial services more attuned to poorer people.

20. It also illustrates the usefulness of benchmark studies as a point of reference. Access to a general business survey and two poverty surveys made it possible to address the question of depth of outreach while concentrating primary data collection on programme clients. On the other hand, neither method perhaps dealt adequately with assessment of indirect impacts [Johnson, 1998]. Overall costs of the study could have been substantially reduced. Much time was lost trying to extract data on loans received from PULSE computer records. Despite extensive pre-testing, the sample survey questionnaire could also have been shortened. For example, locating and interviewing a second household member proved time consuming and ultimately unproductive. The number of focus group discussions and key informant interviews could have been reduced. They would also have been better timed as a follow-up to quantitative data collection and analysis, rather than running in parallel with it.
21. The argument is not that problems of programme endogeneity and selection bias were fully addressed but that they were sufficiently dealt with to yield plausible results and hence reduce expectations about likely impacts among key stakeholders.
22. This could also be integrated with different methods already routinely used to assess the poverty of clients on joining [Hatch and Frederick, 1998].
23. Microcredit organisations, including PULSE, have routinely collected some relevant data themselves, particularly on client entry. However, it is often poorly utilised because other operational tasks take priority. This in turn lowers incentives to ensure the data is of good quality.
24. In some contexts it may be possible to identify new clients up to a year in advance of their joining, and randomise the sequence of entry. If so then selection bias problems can be greatly reduced [Coleman, 1999].
25. With continuous data collection, the time interval over which impact is being measured will vary. Trend and seasonal effects must then be controlled for statistically, increasing the required sample size. Analysis should be based on estimates of changes in selected performance indicators. Unless pipeline clients can be identified at least a year in advance of entry then some reliance on recall cannot be avoided. However, changes in performance of clients who remain in the programme can be measured by reference back to earlier interviews. As the database builds up, analysis of impact will also increasingly rely on variation in the level of participation in the programme (as measured by cumulative receipt of loans, for example) rather than on simple comparisons between borrowers and non-borrowers.

REFERENCES

- Adams, D.W. and J.D. Von Pischke, 1992, 'Microenterprise Credit Programmes: Déjà Vu', *World Development*, Vol.20, No.1463, p.70.
- CARE-Zambia, 1997, *Lusaka Longitudinal Livelihood Cohort Study: Results of a Baseline Study in Peri-Urban Lusaka*, Lusaka: CARE-Zambia.
- Cheston, S. and L. Reed, 1999, 'Measuring Transformation: Assessing and Improving the Impact of Microcredit', paper prepared for the Microcredit Summit Meeting of Councils in Abidjan, 24-26 June, 1999.
- Cohen, M., 1999, *Microfinance Impact Evaluation: Going Down Market*, paper prepared for World Bank Conference on Evaluation and Poverty Reduction, 14-15 June 1999, Washington, DC: USAID.
- Coleman, B.E., 1999, 'The Impact of Group Lending in Northeast Thailand', *Journal of Development Economics*, Vol.60, pp.105-41.
- Copestake, J.G., 1996a, 'NGO-State Collaboration and the New Policy Agenda - The Case of Subsidised Credit.' *Public Administration and Development*, Vol.16, pp.21-30.
- Copestake, J.G., 1996b, 'Poverty Oriented Financial Service Programmes - Room for Improvement?' *Savings and Development*, Vol.XIX, No.4, pp.417-35.
- Copestake, J.G., Bhalotra, S., Godwin, M., Grundel, H., Johnson, S. and D. Musona, 1998,

- Impact Assessment of the PULSE Microfinance Programme in Lusaka, Zambia*, Bath: Centre for Development Studies, University of Bath, Working paper. <http://www.bath.ac.uk/centres/feds>.
- Diagne, A., Zeller, M. and C. Mataya, 1996, *Rural Financial Markets and Household Food Security: Impacts of Access to Credit on the Socio-Economic Situation of Rural Households in Malawi*, Washington, DC: International Food Policy Research Institute and Bunda College of Agriculture, Malawi.
- Edgcomb, E.L. and C. Garber, 1998, *Practitioner-led Impact Assessment: A Test in Honduras*, Washington, DC: AIMS Project, Office of Microenterprise Development USAID. <http://www.mip.org>.
- Gaile, G.L. and J. Foster, 1996, *Review of Methodological Approaches to the Study of the Impact of Microenterprise Credit Programs*, Washington, DC: AIMS Project, USAID.
- Government of Zambia, 1998, *The Evolution of Poverty in Zambia, 1991 to 1996*, Lusaka: Central Statistical Office.
- Harper, M. and G. Finnegan, 1998, *Value for Money: Impact of Small Enterprise Development*, London: Intermediate Technology Publications.
- Hatch, J.K. and L. Frederick, 1998, *Poverty Assessment by Microfinance Institutions: A Review of Current Practice*, Washington, DC: Development Alternatives Incorporated, Report for the Microenterprise Best Practices Project of USAID.
- Hulme, D. and P. Mosley, 1996, *Poverty and Finance*, London: Routledge.
- Hyman, E.L. and K. Dearden, 1998, 'Comprehensive Impact Assessment Systems for NGO Microenterprise Development Programmes', *World Development*, Vol.26, No.2, pp.261–76.
- Johnson, S., 1998, 'Programme Impact Assessment in Micro-Finance: The Need for an Analysis of Real Markets', *IDS Bulletin*, Vol.29, No.4, pp.21–31.
- Microcredit Summit, 1998, *Meeting the Challenge of Reaching the Poorest: One Year of the Microcredit Summit Campaign*. <http://www.microcreditsummit.org>.
- McNelly, B. and K. Lippold, 1998, *Practitioner-Led Impact Assessment: A Test in Mali*, Washington, DC: AIMS project of USAID.
- Moffitt, R., 1991, 'Program Evaluation with Non-Experimental Data', *Evaluation Review*, Vol.15, No.3, pp.291–314.
- Morduch, J., 1999, 'The Microfinance Promise', *Journal of Economic Literature*, Vol.XXXVII, pp.1569–614.
- Moser, C.O.N., 1998, 'The Asset Vulnerability Framework: Reassessing Urban Poverty Reduction Strategies', *World Development*, Vol.26, No.1, pp.1–19.
- Neill, C., Davalos, M., Kiiru, W., Manundu, M. and J. Sebstad, 1994, *The Kenya Rural Enterprise Programme: A Final Evaluation*, Washington, DC: USAID.
- O'Reilly, C., 1996, 'Urban Women's Informal Savings and Credit Systems in Zambia', *Development in Practice*, Vol.6, No.2, pp.165–8.
- Otero, M. and E. Rhyne (eds.), 1994, *The New World of Microenterprise Finance*, London: Intermediate Technology Publications.
- Parker, J.C., 1996, *Micro and Small-Scale Enterprises in Zambia: Results of the 1996 Nationwide Survey*, London: Graham Bannock and Partners.
- Rutherford, S., 1998, *The Poor and Their Money: An Essay about Financial Services for Poor People*, London: Enterprise Development Department of DFID.
- Schreiner, M., 1998, *The Rigorous Evaluation of Microenterprise Programs*, St. Louis, MO: Centre for Social Development, Washington University in St. Louis.
- Sebstad, J., 1998, *Toward Guidelines for Lower-Cost Impact Assessment Methodologies for Microenterprise Programmes*, Discussion Paper for the second virtual meeting of the CGAP working group on impact assessment methodologies, Washington, DC: World Bank.
- Sebstad, J. and G. Chen, 1996, *Overview of Studies on the Impact of Microenterprise Credit*, Washington, DC: AIMS project, USAID.
- Sebstad, J., Neill, C., Barnes, C. with G. Chen, 1995, *Assessing the Impact of Microenterprise Interventions: A Framework for Analysis*, Washington, DC: USAID.
- Simanowitz, A., 1999, *Understanding Impact: Experiences and Lessons from the Small*

Enterprise Foundation's Poverty Alleviation Programme – Tshomisano, paper for the third virtual meeting of the CGAP working group on impact assessment methodologies, Tzaneen: Small Enterprise Foundation, South Africa.

Sinha, S. (ed.), 1998, 'Microcredit: Impact, Targeting and Sustainability', *IDS Bulletin*, Vol.29, No.4, pp.1–11, Oct.

Wood, G. and I.Sharif (eds.), 1997, '*Who Needs Credit: Poverty and Finance in Bangladesh*', London: Zed Press and Dhaka: University Press.

